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## PATENT ABSTRACTS OF JAPAN

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(71)Applicant : KOBAYASHI KIROKUSHI CO LTD

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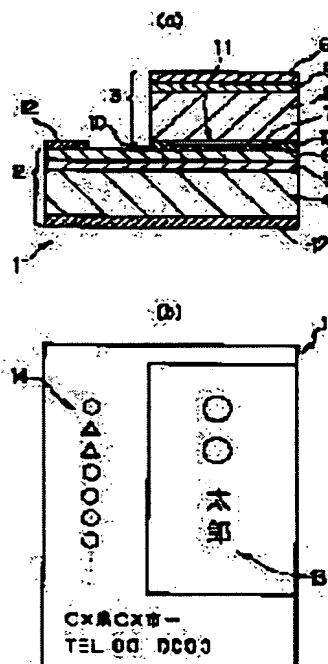
(72)Inventor : NAKANISHI MASAKI

## (54) REWRITABLE CARD

## (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a rewritable card wherein on the same face of the card, information which needs to be discriminated such as an emphasized message can be rewritably displayed with a color being different from other information parts.

**SOLUTION:** On the upper layer part of a coloring-decoloring type rewritable recording layer 5, a back printing layer 7, and a transparent-opaque type rewritable recording layer 9 which is arranged on the top of the back printing layer 7, are partially laminate-formed. By this method, on the same surface of a card, for general information 13, opaque characters and graphics or the like are rewritably displayed by a thermal reversible change of the transparent-opaque type rewritable recording layer 9, and as special information 14 being separate from the general information 13, regarding a timely emphasized message or the like such as a self PR, characters and graphics in colors such as black or red, are rewritably displayed by a thermal reversible change of the coloring-decoloring type rewritable recording layer 5.



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**CLAIMS**

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[Claim(s)]

[Claim 1] The rewrite card which is equipped with two or more lilac ITABURU record layers from which the color at the time of coloring differs on the same field of a base material, and is characterized by the bird clapper.

[Claim 2] The rewrite card partially characterized by having the lilac ITABURU record layer which consists of a macromolecule and low-molecular type heat reversible record material at the upper layer of the lilac ITABURU record layer which consists of a leuco color type heat reversible record material.

[Claim 3] The rewrite card partially characterized by having the lilac ITABURU record layer which consists of a leuco color type heat reversible record material at the upper layer of the lilac ITABURU record layer which consists of a macromolecule and low-molecular type heat reversible record material.

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## DETAILED DESCRIPTION

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### [Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] this invention relates to the rewrite card which can rewrite the information which consists of a graphic character, a figure, etc.

[0002]

[Description of the Prior Art] There are a money card, a credit card, a point card, etc., for example, conventionally, as this kind of a rewrite card, using the property of the heat-reversible recording film of a card face, the information on desired can be displayed on a card face, or these can eliminate the displayed information, and information is recorded on the magnetic-recording layer on the rear face of a card, or it is widely known as what enables reproduction of the recorded information.

[0003] By the way, there is a thing a lamination type as shown in drawing 5, and aluminum vacuum evaporation type as [ shown in drawing 6 ] in this kind of rewrite card.

[0004] The rewrite card 1 of the lamination type shown in drawing 5 is the structure which stuck transparence, the heat-reversible recording film 3 of the transparence and nebula type which a reversible hue change of nebula produces, and MAG PET 17 with adhesives 18 at predetermined temperature, and displays still more vividly the character of the nebula color which is made to form an air space in a printing area, without applying adhesives, and is formed of nebula of the heat-reversible recording film 3 etc.

[0005] In addition, the heat-reversible bright film 3 is the object which formed transparent PET8 of the shape of a sheet which forms an air space in the rear face of the transparence and the become [ cloudy ] type lilac ITABURU record layer 9 concerned between MAG PET 17 while it covers with a protective layer 9 the front face of the transparence and the become [ cloudy ] type lilac ITABURU record layer 9 which consists of a macromolecule and low-molecular type heat reversible record material etc. and protects it. On the other hand, MAG PET 17 on the front face of white sheet-like PET4 which functions as a card base material Black 1 color Or while forming red, blue, and the back printing layer 7 (layer which serves as backgrounds, such as a character of the nebula color formed, by the reversible change of the heat-reversible recording film 3) that gave which chromatic color 1 green color and green full color printing The magnetic layer 16 is formed in the rear face of white PET4 concerned, and covering protection of this magnetic layer 16 is carried out by the protective layer 6. In addition, information, such as a character and a figure, is printed by the protective layers 6 and 6 on the rear face of a card table, and the printing layer 12 is formed.

[0006] The rewrite card 1 of the aluminum vacuum evaporation type shown in drawing 6 While making the shape of a sheet PET etc. into the card base material 19 and carrying out laminating formation of the light reflex layer 15 formed in the front-face side of the card base material 19 by the vacuum-plating-of-aluminium method etc., transparence and a become [ cloudy ] type lilac ITABURU record layer 9, and the protective layer 6 at order Laminating formation of the magnetic layer 16 and the protective layer 6 is carried out at order, predetermined information is printed on the protective layers 6 and 6 on the rear face of a card table, and the printing layer 12 is formed in the rear-face side of the card base material 19.

[0007]

[Problem(s) to be Solved by the Invention] However, if it is in the conventional rewrite card 1 shown in drawing 5 and drawing 6 The hue (ton) in which coloring and decolorization are possible all on the same field of a card isshiki, Namely, since there is only a nebula color by the reversible change of transparency and the become [cloudy] type lilac ITABURU record layer 9 and it is only what is displayed possible [rewriting] if needed about information, such as a character and a pattern, in this isshiki, For example, a message to emphasize especially among the information displayed on the same side of a card etc. cannot be rewritten in different color with the amount of [other] another information bureau.

[0008] The place which this invention was made in view of the above-mentioned situation, and is made into the purpose is to offer the rewrite card which can display information to differentiate like an emphasis message on the same side of a card possible [the amount of / other / information bureau / rewriting by different color].

[0009]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, invention according to claim 1 is equipped with two or more lilac ITABURU record layers from which the color at the time of coloring differs on the same field of a base material, and is characterized by the bird clapper.

[0010] Invention according to claim 2 is partially characterized by having the lilac ITABURU record layer which consists of a macromolecule and low-molecular type heat reversible record material at the upper layer of the lilac ITABURU record layer which consists of a leuco color type heat reversible record material.

[0011] Invention according to claim 3 is partially characterized by having the lilac ITABURU record layer which consists of a leuco color type heat reversible record material at the upper layer of the lilac ITABURU record layer which consists of a macromolecule and low-molecular type heat reversible record material.

[0012] In invention according to claim 1, coloring of a double color is attained on the same side of a card. in a claim 2 and invention according to claim 3 Chromatic colors, such as black based on coloring / decolorization type lilac ITABURU record layer which is a leuco color type on the same side of a card, or red, Coloring of at least 2 colors with the nebula color based on the transparency and become [cloudy] type lilac ITABURU record layer which are a macromolecule and a low-molecular type is attained, and all can display information, such as a character and a figure, possible [rewriting] in a double color.

[0013]

[Embodiments of the Invention] Hereafter, the operation gestalt of the rewrite card concerning this invention is explained in detail based on drawing 1 or drawing 4.

[0014] Drawing 1 shows the operation gestalt which applied the rewrite card of this invention to the card card. The rewrite card 1 as a card card shown in this drawing is the structure which stuck the heat-reversible recording film 3 of a macromolecule and a low-molecular type partially on the front face of the leuco color type heat-reversible recording film 2.

[0015] On white PET4 of the shape of a sheet which functions as a card base material, the composition which covers the front face of coloring / decolorization type lilac ITABURU record layer 5 with a protective layer 6, and protects it is used for it while the leuco color type heat-reversible recording film 2 carries out laminating formation of the coloring / decolorization type lilac ITABURU record layer 5 which consists of a leuco color type heat reversible record material.

[0016] When coloring / decolorization type lilac ITABURU record layer 5 makes a leuco-color a principal component and quenching is performed after heating, it colors from a decolorization state (transparent) and coloring states, such as black, red, or blue, are fixed, on the other hand, if annealing is performed, it will change from a coloring state to a decolorization state in reversible, and change of the two gestalten will be maintained also in ordinary temperature.

[0017] The back printing layer 7 which gave chromatic color isshiki, such as black isshiki or red, blue, and green, or full color printing is formed in a part of front face of the above-mentioned protective layer 6, and this back printing layer 7 serves as backgrounds, such as a character of

the nebula color concerned, and a figure, when a formation indication of a character, a figure, etc. of a nebula color by the heat reversible change is given into the heat-reversible recording film 3 of a macromolecule and a low-molecular type.

[0018] On transparent sheet-like PET8, the composition which covers the front face of transparency and the become [ cloudy ] type lilac ITABURU record layer 9 with a protective layer 6, and protects it is used for it while the heat-reversible recording film 3 of a macromolecule and a low-molecular type carries out laminating formation of the transparency and the become [ cloudy ] type lilac ITABURU record layer 9 which consists of a macromolecule and low-molecular type heat reversible record material.

[0019] Transparency and the become [ cloudy ] type lilac ITABURU record layer 9 change with predetermined temperature from a transparent state to a nebula state in reversible, and change of the two gestalten is maintained also in ordinary temperature.

[0020] The back printing layer 7 of the leuco color type heat-reversible recording film 2 serves as the character of a nebula color and the background of a figure by which it is indicated by formation into the heat-reversible recording film 3 of a macromolecule and a low-molecular type as above-mentioned. Therefore, the heat-reversible recording film 3 of a macromolecule and a low-molecular type is stuck on the portion which is on the front face of the leuco color type heat-reversible recording film 2, and formed the back printing layer 7. Thus, when it sticks, it will have partially the back printing layer 7, and the transparency and become [ cloudy ] type lilac ITABURU record layer 9 which are arranged at a top in the management of coloring / decolorization type lilac ITABURU record layer 5.

[0021] By the way, attachment with the leuco color type heat-reversible recording film 2 and the heat-reversible recording film 3 of a macromolecule and a low-molecular type is performed by carrying out adhesion fixation of the transparent PET8 side of the heat-reversible recording film 3 of a macromolecule and a low-molecular type with adhesives (adhesives layer 10) the side in which the back printing layer 7 of the leuco color type heat-reversible recording film 2 was formed. Moreover, between the back printing layer 7 of the leuco color type heat-reversible recording film 2, and transparent PET8 of the heat-reversible recording film 3 of a macromolecule and a low-molecular type, the air space 11 of fixed capacity is formed in the state where adhesion fixation was carried out in this way. An air space 11 is formed in order to consider the character of the nebula color by which it is indicated by formation into the heat-reversible recording film 3 of a macromolecule and a low-molecular type etc. as a still clearer display as the conventional technology also described.

[0022] in addition, the front-face top of the leuco color type heat-reversible recording film 2 — and the printing layer 12 according to black and white, color printing, etc. in the portion which is not sticking the heat-reversible recording film 3 of a macromolecule and a low-molecular type — moreover, the printing layer 12 by color printing etc. is formed also in the rear face of the leuco color type heat-reversible recording film 2

[0023] Next, the example of use and its operation effect of the constituted RIRAITA bull card 1 are explained using drawing 1 like the above.

[0024] It is generated to display in a card generally possible [ rewriting of timely information, such as emphasis MESSEJI for Selves PR besides being a name, the address, etc. (for example, "me am taking charge of the development business of a rewrite card".), ]. It is important for this kind of emphasis message that other general information currently displayed on the same field of a card is those of which differentiate and nurse with different color and it complains to a person's visual sense.

[0025] The RIRAITA bull card 1 of this operation gestalt can reply to the above-mentioned demand. Namely, since the RIRAITA bull card 1 of this operation gestalt is the structure which carried out the laminating of the heat-reversible recording film 3 of a macromolecule and a low-molecular type to the management of the leuco color type heat-reversible recording film 2 partially, coloring of two colors of chromatic colors, such as black based on coloring / decolorization type lilac ITABURU record layer 5 or red, and the nebula color based on transparency and the become [ cloudy ] type lilac ITABURU record layer 9 is possible for it on the same field of a card. Therefore, into the heat-reversible recording film 3 of a macromolecule

and a low-molecular type, the general information 13 can be displayed in a character, a figure, etc. of nebula, and can be displayed possible [rewriting] with chromatic colors, such as black or red, into the leuco color type heat-reversible recording film 2 about timely emphasis messages, such as Self PR, as special information 14 apart from this.

[0026] In addition, although the operation gestalt shown in drawing 1 forms transparency and a become [cloudy] type lilac ITABURU record layer 9 partially in the upper layer of a coloring / decolorization type lilac ITABURU record layer 5, as shown in drawing 2, a coloring / decolorization type lilac ITABURU record layer 5 may form, and the effect same also in the case of such a laminated structure as the above is partially acquired by the upper layer of transparency and a become [cloudy] type lilac ITABURU record layer 9. With the operation gestalt shown in this drawing 2, covering protection of the front face of transparency and the become [cloudy] type lilac ITABURU record layer 9 is carried out by the protective layer 9, and the laminating of the coloring / decolorization type lilac ITABURU record layer 5 is carried out on the protective layer 9. Moreover, the aluminum vacuum-evaporation layer is prepared in the lower layer of transparency and the become [cloudy] type lilac ITABURU record layer 9 as a light-reflex layer 15, and the light-reflex layer 15 which consists of an aluminum vacuum-evaporation layer constitutes backgrounds, such as a character which consists of chromatic colors, such as black formed of coloring / decolorization type lilac ITABURU record layer 5, or red, a figure, and a character of the nebula color formed of transparency and the become [cloudy] type lilac ITABURU record layer 9, a figure,

[0027] Although the operation gestalt shown in drawing 1 and drawing 2 is the laminated structure which inserted the protective-layer 6 grade between coloring / decolorization type lilac ITABURU record layer 5, and transparency and a become [cloudy] type lilac ITABURU record layer 9. For example, although the laminated structure to which transparency and the become [cloudy] type lilac ITABURU record layer 9 are located directly under coloring / decolorization type lilac ITABURU record layer 5, or illustration is omitted as shown in drawing 3. The laminated structure to which coloring / decolorization type lilac ITABURU record layer is located directly under transparency and a become [cloudy] type lilac ITABURU record layer can be adopted, and the protective layer 6 as shown in a protective layer 6 and the back printing layer 7 as shown in drawing 1, transparent PET8, or drawing 2 can also be omitted. With the operation gestalt shown in this drawing 3, the light reflex layer 15 (aluminum vacuum evaporation layer) used as a background is formed in the lower layer of transparency and the become [cloudy] type lilac ITABURU record layer 9 as well as the operation gestalt shown in drawing 2.

[0028] By the way, although each operation gestalt shown in drawing 1 or drawing 3 is the composition for displaying a character, a figure, etc. possible [rewriting by two colors or the color beyond it] on the same field of a card, as composition for attaining such a purpose, structure as shown, for example in drawing 4 can also be used for it. That is, coloring / decolorization type lilac ITABURU record layer 5 which consists of heat reversible record material of the leuco color type shown in drawing 1 or drawing 3 can choose black or red, blue, etc. suitably according to the kind of leuco color which can change from a decolorization state to a coloring state in reversible, and uses the color of the coloring according to the conditions of heating and cooling. Therefore, on the same field of the card base material which consists of sheet-like white PET4 grade, as shown in drawing 4, with red so that it may be black. When two sorts of coloring / decolorization type lilac ITABURU record layers 5 and 5 from which the color at the time of coloring differs are installed, since the colors at the time of coloring differ, on the right and the left, it becomes possible to express information, such as a character and a figure, as two colors possible [rewriting] on the same field of a card. Furthermore, on the same field of a card base material (white PET4), coloring / decolorization type lilac ITABURU record layer from which the color at the time of coloring differs can also be prepared two or more sorts, and it becomes possible to express as two or more colors possible [rewriting of information, such as a character and a figure,] in this case. Moreover, the combination of the color of coloring is not limited to red and black, and with red, blue, or blue, various kinds of combination can be used for it so that it may be black.



[0029] Although the above-mentioned operation gestalt is the example which applied this invention to the card card, this invention is not restricted to a card card, but can be applied to various kinds of cards, for example, a money card, a credit card, a point card, etc. In addition, each operation gestalt shown in drawing 2 or drawing 4 is constituted as a magnetic card which has the magnetic layer 16 at the card rear face.

[0030] Although the above-mentioned operation gestalt constituted coloring / decolorization type lilac ITABURU record layer 5 from a leuco color type heat reversible record material, it is also possible to form coloring / decolorization type lilac ITABURU record layer 5 by the other materials equivalent to this. Moreover, although the operation gestalt shown in this drawing constituted transparency and the become [ cloudy ] type lilac ITABURU record layer 9 from a macromolecule and low-molecular type heat reversible record material, it is also possible to form transparency and the become [ cloudy ] type lilac ITABURU record layer 9 by the other materials equivalent to this.

[0031]

[Effect of the Invention] Invention according to claim 1 adopts the structure which comes to have two or more lilac ITABURU record layers from which the color at the time of coloring differs on the same field of a base material. For this reason, on the same field of a card, coloring of a double color is attained and information, such as a character and a figure, can be displayed possible [ rewriting ] in a double color. therefore, suitable, when rewriting information to differentiate like an emphasis message especially by color which is different in other parts for an information bureau and performing timely self PR etc. effectively — etc. — it has an effect

[0032] A claim 2 and invention according to claim 3 adopt partially the structure which carried out the laminating of the coloring / decolorization type lilac ITABURU record layer as the management of \*\* transparency and a structure [ which carried out the laminating of transparency and the become / cloudy / type lilac ITABURU record layer ], or become [ cloudy ] type lilac ITABURU record layer in the management of \*\* coloring / decolorization type lilac ITABURU record layer. In the same field top of a card, coloring of at least 2 colors of chromatic colors, such as black based on coloring / decolorization type lilac ITABURU record layer, red, or blue, and the nebula color based on transparency and a become [ cloudy ] type lilac ITABURU record layer also of these is attained, they can display information, such as a character and a figure, possible [ rewriting ] in a double color, and the same effect as the above is acquired.

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**TECHNICAL FIELD**

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[The technical field to which invention belongs] this invention relates to the rewrite card which can rewrite the information which consists of a graphic character, a figure, etc.

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## PRIOR ART

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[Description of the Prior Art] There are a money card, a credit card, a point card, etc., for example, conventionally, as this kind of a rewrite card, using the property of the heat-reversible recording film of a card face, the information on desired can be displayed on a card face, or these can eliminate the displayed information, and information is recorded on the magnetic-recording layer on the rear face of a card, or it is widely known as what enables reproduction of the recorded information.

[0003] By the way, there is a thing a lamination type as shown in drawing 5, and aluminum vacuum evaporatio type as [ shown in drawing 6 ] in this kind of rewrite card.

[0004] The rewrite card 1 of the lamination type shown in drawing 5 is the structure which stuck transparence, the heat-reversible recording film 3 of the transparence and nebula type which a reversible hue change of nebula produces, and MAG PET 17 with adhesives 18 at predetermined temperature, and displays still more vividly the character of the nebula color which is made to form an air space in a printing area, without applying adhesives, and is formed of nebula of the heat-reversible recording film 3 etc.

[0005] In addition, the heat-reversible bright film 3 is the object which formed transparent PET8 of the shape of a sheet which forms an air space in the rear face of the transparence and the become [ cloudy ] type lilac ITABURU record layer 9 concerned between MAG PET 17 while it covers with a protective layer 9 the front face of the transparence and the become [ cloudy ] type lilac ITABURU record layer 9 which consists of a macromolecule and low-molecular type heat reversible record material etc. and protects it. On the other hand, MAG PET 17 on the front face of white sheet-like PET4 which functions as a card base material Black 1 color Or while forming red, blue, and the back printing layer 7 (layer which serves as backgrounds, such as a character of the nebula color formed, by the reversible change of the heat-reversible recording film 3) that gave which chromatic color 1 green color and green full color printing The magnetic layer 16 is formed in the rear face of white PET4 concerned, and covering protection of this magnetic layer 16 is carried out by the protective layer 6. In addition, information, such as a character and a figure, is printed by the protective layers 6 and 6 on the rear face of a card table, and the printing layer 12 is formed.

[0006] The rewrite card 1 of the aluminum vacuum evaporatio type shown in drawing 6 While making the shape of a sheet PET etc. into the card base material 19 and carrying out laminating formation of the light reflex layer 15 formed in the front-face side of the card base material 19 by the vacuum-plating-of-aluminium method etc., transparence and a become [ cloudy ] type lilac ITABURU record layer 9, and the protective layer 6 at order Laminating formation of the magnetic layer 16 and the protective layer 6 is carried out at order, predetermined information is printed on the protective layers 6 and 6 on the rear face of a card table, and the printing layer 12 is formed in the rear-face side of the card base material 19.

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**EFFECT OF THE INVENTION**

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[Effect of the Invention] Invention according to claim 1 adopts the structure which comes to have two or more lilac ITABURU record layers from which the color at the time of coloring differs on the same field of a base material. For this reason, on the same field of a card, coloring of a double color is attained and information, such as a character and a figure, can be displayed possible [ rewriting ] in a double color. therefore, suitable, when rewriting information to differentiate like an emphasis message especially by color which is different in other parts for an information bureau and performing timely self PR etc. effectively — etc. — it has an effect [0032] A claim 2 and invention according to claim 3 adopt partially the structure which carried out the laminating of the coloring / decolorization type lilac ITABURU record layer as the management of \*\* transparence and a structure [ which carried out the laminating of transparence and the become / cloudy / type lilac ITABURU record layer ], or become [ cloudy ] type lilac ITABURU record layer in the management of \*\* coloring / decolorization type lilac ITABURU record layer. In the same field top of a card, coloring of at least 2 colors of chromatic colors, such as black based on coloring / decolorization type lilac ITABURU record layer, red, or blue, and the nebula color based on transparence and a become [ cloudy ] type lilac ITABURU record layer also of these is attained, they can display information, such as a character and a figure, possible [ rewriting ] in a double color, and the same effect as the above is acquired.

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**TECHNICAL PROBLEM**

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[Problem(s) to be Solved by the Invention] However, if it is in the conventional rewrite card 1 shown in drawing 5 and drawing 6 The hue (tone) in which coloring and decolorization are possible all on the same field of a card Isshiki, Namely, since there is only a nebula color by the reversible change of transparency and the become [ cloudy ] type lilac ITABURU record layer 9 and it is only what is displayed possible [ rewriting ] if needed about information, such as a character and a pattern, in this Isshiki, For example, a message to emphasize especially among the information displayed on the same side of a card etc. cannot be rewritten in different color with the amount of [ other ] another information bureau.

[0008] The place which this invention was made in view of the above-mentioned situation, and is made into the purpose is to offer the rewrite card which can display information to differentiate like an emphasis message on the same side of a card possible [ the amount of / other / information bureau / rewriting by different color ].

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MEANS

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[Means for Solving the Problem] In order to attain the above-mentioned purpose, invention according to claim 1 is equipped with two or more lilac ITABURU record layers from which the color at the time of coloring differs on the same field of a base material, and is characterized by the bird clapper.

[0010] Invention according to claim 2 is partially characterized by having the lilac ITABURU record layer which consists of a macromolecule and low-molecular type heat reversible record material at the upper layer of the lilac ITABURU record layer which consists of a leuco color type heat reversible record material.

[0011] Invention according to claim 3 is partially characterized by having the lilac ITABURU record layer which consists of a leuco color type heat reversible record material at the upper layer of the lilac ITABURU record layer which consists of a macromolecule and low-molecular type heat reversible record material.

[0012] In invention according to claim 1, coloring of a double color is attained on the same side of a card. in a claim 2 and invention according to claim 3 Chromatic colors, such as black based on coloring / decolorization type lilac ITABURU record layer which is a leuco color type on the same side of a card, or red, Coloring of at least 2 colors with the nebula color based on the transparence and become [ cloudy ] type lilac ITABURU record layer which are a macromolecule and a low-molecular type is attained, and all can display information, such as a character and a figure, possible [ rewriting ] in a double color.

[0013]

[Embodiments of the Invention] Hereafter, the operation gestalt of the rewrite card concerning this invention is explained in detail based on drawing 1 or drawing 4 .

[0014] Drawing 1 shows the operation gestalt which applied the rewrite card of this invention to the card card. The rewrite card 1 as a card card shown in this drawing is the structure which stuck the heat-reversible recording film 3 of a macromolecule and a low-molecular type partially on the front face of the leuco color type heat-reversible recording film 2.

[0015] On white PET4 of the shape of a sheet which functions as a card base material, the composition which covers the front face of coloring / decolorization type lilac ITABURU record layer 5 with a protective layer 6, and protects it is used for it while the leuco color type heat-reversible recording film 2 carries out laminating formation of the coloring / decolorization type lilac ITABURU record layer 5 which consists of a leuco color type heat reversible record material.

[0016] When coloring / decolorization type lilac ITABURU record layer 5 makes a leuco color a principal component and quenching is performed after heating, it colors from a decolorization state (transparent) and coloring states, such as black, red, or blue, are fixed, on the other hand, if annealing is performed, it will change from a coloring state to a decolorization state in reversible, and change of the two g stalt n will be maintained also in ordinary temp ratur .

[0017] The back printing layer 7 which gave chromatic color Isshiki, such as black Isshiki or red, blue, and green, or full color printing is formed in a part of front face of the above-mentioned protective layer 6, and this back printing layer 7 serves as backgrounds, such as a character of the nebula color concerned, and a figure, when a formation indication of a character, a figure,

etc. of a nebula color by the heat reversible change is given into the heat-reversible recording film 3 of a macromolecule and a low-molecular type.

[0018] On transparent sheet-like PET8, the composition which covers the front face of transparency and the become [ cloudy ] type lilac ITABURU record layer 9 with a protective layer 6, and protects it is used for it while the heat-reversible recording film 3 of a macromolecule and a low-molecular type carries out laminating formation of the transparency and the become [ cloudy ] type lilac ITABURU record layer 9 which consists of a macromolecule and low-molecular type heat reversible record material.

[0019] Transparency and the become [ cloudy ] type lilac ITABURU record layer 9 change with predetermined temperature from a transparent state to a nebula state in reversible, and change of the two gestalten is maintained also in ordinary temperature.

[0020] The back printing layer 7 of the leuco color type heat-reversible recording film 2 serves as the character of a nebula color and the background of a figure by which it is indicated by formation into the heat-reversible recording film 3 of a macromolecule and a low-molecular type as above-mentioned. Therefore, the heat-reversible recording film 3 of a macromolecule and a low-molecular type is stuck on the portion which is on the front face of the leuco color type heat-reversible recording film 2, and formed the back printing layer 7. Thus, when it sticks, it will have partially the back printing layer 7, and the transparency and become [ cloudy ] type lilac ITABURU record layer 9 which are arranged at a top in the management of coloring / decolorization type lilac ITABURU record layer 5.

[0021] By the way, attachment with the leuco color type heat-reversible recording film 2 and the heat-reversible recording film 3 of a macromolecule and a low-molecular type is performed by carrying out adhesion fixation of the transparent PET8 side of the heat-reversible recording film 3 of a macromolecule and a low-molecular type with adhesives (adhesives layer 10) the side in which the back printing layer 7 of the leuco color type heat-reversible recording film 2 was formed. Moreover, between the back printing layer 7 of the leuco color type heat-reversible recording film 2, and transparent PET8 of the heat-reversible recording film 3 of a macromolecule and a low-molecular type, the air space 11 of fixed capacity is formed in the state where adhesion fixation was carried out in this way. An air space 11 is formed in order to consider the character of the nebula color by which it is indicated by formation into the heat-reversible recording film 3 of a macromolecule and a low-molecular type etc. as a still clearer display as the conventional technology also described.

[0022] in addition, the front-face top of the leuco color type heat-reversible recording film 2 — and the printing layer 12 according to black and white, color printing, etc. in the portion which is not sticking the heat-reversible recording film 3 of a macromolecule and a low-molecular type — moreover, the printing layer 12 by color printing etc. is formed also in the rear face of the leuco color type heat-reversible recording film 2

[0023] Next, the example of use and its operation effect of the constituted RIRAITA bull card 1 are explained using drawing 1 like the above.

[0024] It is generated to display in a card generally possible [ rewriting of timely information, such as emphasis MESSEJI for Selves PR besides being a name, the address, etc. (for example, "me am taking charge of the development business of a rewrite card"). ]. It is important for this kind of emphasis message that other general information currently displayed on the same field of a card is those of which differentiate and nurse with different color and it complains to a person's visual sense.

[0025] The RIRAITA bull card 1 of this operation gestalt can reply to the above-mentioned demand. Namely, since the RIRAITA bull card 1 of this operation gestalt is the structure which carried out the laminating of the heat-reversible recording film 3 of a macromolecule and a low-molecular type to the management of the leuco color type heat-reversible recording film 2 partially, coloring of two colors of chromatic colors, such as black based on coloring / decolorization type lilac ITABURU record layer 5 or red, and the nebula color based on transparency and the become [ cloudy ] type lilac ITABURU record layer 9 is possible for it on the same field of a card. Therefore, into the heat-reversible recording film 3 of a macromolecule and a low-molecular type, the general information 13 can be displayed in a character, a figure,

tc. of nebula, and can be displayed possible [ rewriting ] with chromatic colors, such as black or red, into the leuco color type heat-reversible recording film 2 about timely emphasis messages, such as Self PR, as special information 14 apart from this.

[0026] In addition, although the operation gestalt shown in drawing 1 forms transparency and a become [ cloudy ] type lilac ITABURU record layer 9 partially in the upper layer of a coloring / decolorization type lilac ITABURU record layer 5, as shown in drawing 2, a coloring / decolorization type lilac ITABURU record layer 5 may form, and the effect same also in the case of such a laminated structure as the above is partially acquired by the upper layer of transparency and a become [ cloudy ] type lilac ITABURU record layer 9. With the operation gestalt shown in this drawing 2, covering protection of the front face of transparency and the become [ cloudy ] type lilac ITABURU record layer 9 is carried out by the protective layer 9, and the laminating of the coloring / decolorization type lilac ITABURU record layer 5 is carried out on the protective layer 9. Moreover, the aluminum vacuum-evaporation layer is prepared in the lower layer of transparency and the become [ cloudy ] type lilac ITABURU record layer 9 as a light-reflex layer 15, and the light-reflex layer 15 which consists of an aluminum vacuum-evaporation layer constitutes backgrounds, such as a character which consists of chromatic colors, such as black formed of coloring / decolorization type lilac ITABURU record layer 5, or red, a figure, and a character of the nebula color formed of transparency and the become [ cloudy ] type lilac ITABURU record layer 9, a figure,

[0027] Although the operation gestalt shown in drawing 1 and drawing 2 is the laminated structure which inserted the protective-layer 6 grade between coloring / decolorization type lilac ITABURU record layer 5, and transparency and a become [ cloudy ] type lilac ITABURU record layer 9. For example, although the laminated structure to which transparency and the become [ cloudy ] type lilac ITABURU record layer 9 are located directly under coloring / decolorization type lilac ITABURU record layer 5, or illustration is omitted as shown in drawing 3. The laminated structure to which coloring / decolorization type lilac ITABURU record layer is located directly under transparency and a become [ cloudy ] type lilac ITABURU record layer can be adopted, and the protective layer 6 as shown in a protective layer 6 and the back printing layer 7 as shown in drawing 1, transparent PET8, or drawing 2 can also be omitted. With the operation gestalt shown in this drawing 3, the light reflex layer 15 (aluminum vacuum evaporation layer) used as a background is formed in the lower layer of transparency and the become [ cloudy ] type lilac ITABURU record layer 9 as well as the operation gestalt shown in drawing 2.

[0028] By the way, although each operation gestalt shown in drawing 1 or drawing 3 is the composition for displaying a character, a figure, etc. possible [ rewriting by two colors or the color beyond it ] on the same field of a card, as composition for attaining such a purpose, structure as shown, for example in drawing 4 can also be used for it. That is, coloring / decolorization type lilac ITABURU record layer 5 which consists of heat reversible record material of the leuco color type shown in drawing 1 or drawing 3 can choose black or red, blue, etc. suitably according to the kind of leuco color which can change from a decolorization state to a coloring state in reversible, and uses the color of the coloring according to the conditions of heating and cooling. Therefore, on the same field of the card base material which consists of sheet-like white PET4 grade, as shown in drawing 4, with red so that it may be black. When two sorts of coloring / decolorization type lilac ITABURU record layers 5 and 5 from which the color at the time of coloring differs are installed, since the colors at the time of coloring differ, on the right and the left, it becomes possible to express information, such as a character and a figure, as two colors possible [ rewriting ] on the same field of a card. Furthermore, on the same field of a card base material (white PET4), coloring / decolorization type lilac ITABURU record layer from which the color at the time of coloring differs can also be prepared two or more sorts, and it becomes possible to express as two or more colors possible [ rewriting of information, such as a character and a figure, ] in this case. Moreover, the combination of the color of coloring is not limited to red and black, and with red, blue, or blue, various kinds of combination can be used for it so that it may be black.

[0029] Although the above-mentioned operation gestalt is the example which applied this



invention to the card card, this invention is not restricted to a card card, but can be applied to various kinds of cards, for example, a money card, a credit card, a point card, etc. In addition, each operation gestalt shown in drawing 2 or drawing 4 is constituted as a magnetic card which has the magnetic layer 16 at the card rear face.

[0030] Although the above-mentioned operation gestalt constituted coloring / decolorization type lilac ITABURU record layer 5 from a leuco color type heat reversible record material, it is also possible to form coloring / decolorization type lilac ITABURU record layer 5 by the other materials equivalent to this. Moreover, although the operation gestalt shown in this drawing constituted transparency and the become [ cloudy ] type lilac ITABURU record layer 9 from a macromolecule and low-molecular type heat reversible record material, it is also possible to form transparency and the become [ cloudy ] type lilac ITABURU record layer 9 by the other materials equivalent to this.

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[Translation done.]

**\* NOTICES \***

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**DESCRIPTION OF DRAWINGS**

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**[Brief Description of the Drawings]**

[Drawing 1] The cross section showing 1 operation gestalt of the rewrite card which (a) requires for this invention, and (b) are the plans of this rewrite card.

[Drawing 2] The cross section showing other operation gestalten of this invention.

[Drawing 3] The cross section showing other operation gestalten of this invention.

[Drawing 4] The cross section showing other operation gestalten of this invention.

[Drawing 5] The cross section of the conventional rewrite card (lamination type).

[Drawing 6] The cross section of the conventional rewrite card (aluminum vacuum evaporation type).

**[Description of Notations]**

1 Rewrite Card

2 Leuco Color Type Heat-reversible Recording Film

3 Heat-reversible Recording Film of Macromolecule and Low-molecular Type

4 White PET

5 Coloring / Decolorization Type Lilac ITABURU Record Layer

6 Protective Layer

7 Back Printing Layer

8 Transparent PET

9 Transparence and Become [ Cloudy ] Type Lilac ITABURU Record Layer

10 Adhesives Layer

11 Air Space

12 Printing Layer

13 General Information

14 Special Information

15 Light Reflex Layer (Aluminum Vacuum Evaporation Layer)

16 Magnetic Layer

17 Magnetic-Recording Film (MAG PET)

18 Adhesives

19 Card Base Material (White PET)

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[Translation done.]

## \* NOTICES \*

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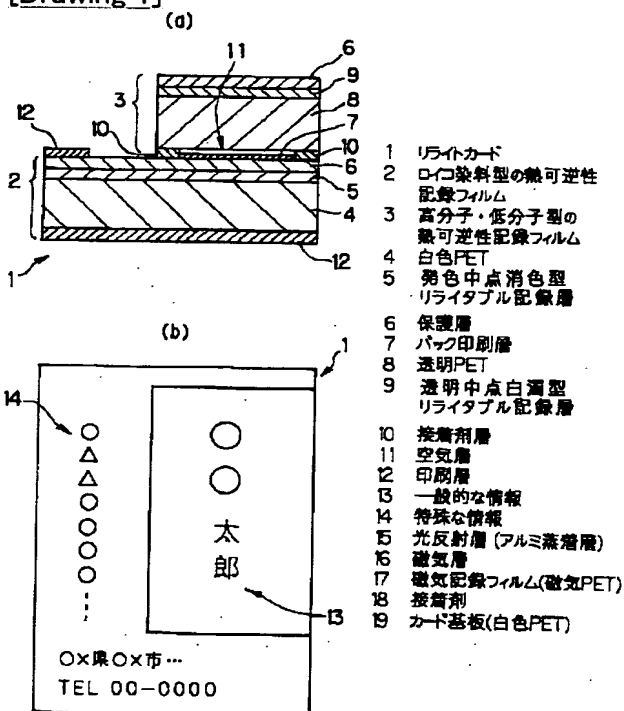
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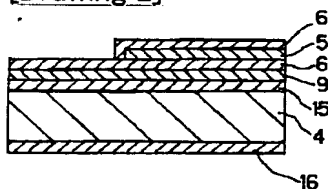
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## DRAWINGS

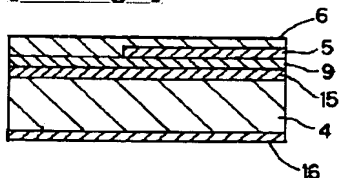
[Drawing 1]



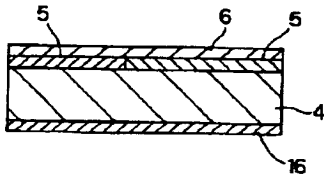
[Drawing 2]



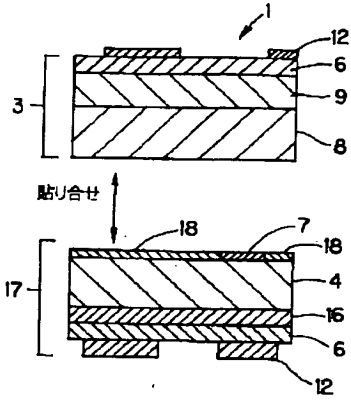
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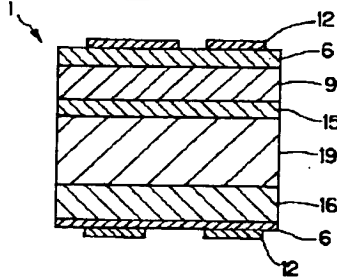
[Drawing 4]



[Drawing 5]



[Drawing 6]



[Translation done.]

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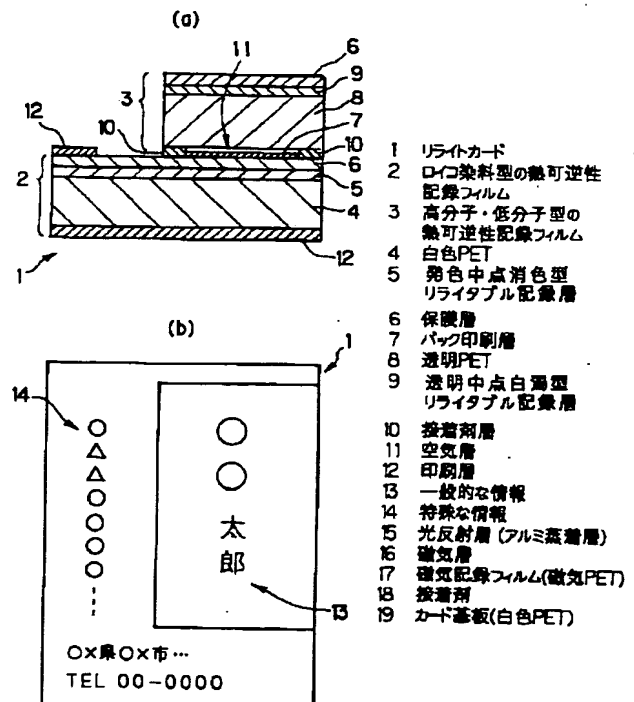
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(54)【発明の名称】 リライトカード

(57)【要約】

【課題】 カードの同一面上において、強調メッセージ等のように差別化したい情報を、他の情報部分とは異なる色で書き換え可能に表示できるリライトカードを提供することにある。

【解決手段】 発色・消色型リライタブル記録層5の上層部に、部分的に、バック印刷層7とその上に配置される透明・白濁型リライタブル記録層9を積層形成する。これにより、カードの同一表面上で、一般的な情報13は透明・白濁型リライタブル記録層9の熱可逆変化による白濁の文字や図形などを書き換え可能に表示し、これとは別に特殊な情報14として、自己PR等のタイムリーな強調メッセージ等については、発色・消色型リライタブル記録層5の熱可逆変化による黒色または赤色等の有彩色で文字や図形などを書き換え可能に表示することを可能とする。



**【特許請求の範囲】**

**【請求項1】** 基材の同一面上に発色時の色彩が異なる複数のリライタブル記録層を備えてなることを特徴とするリライトカード。

**【請求項2】** ロイコ染料タイプの熱可逆記録材料からなるリライタブル記録層の上層に、部分的に、高分子・低分子タイプの熱可逆記録材料からなるリライタブル記録層を有することを特徴とするリライトカード。

**【請求項3】** 高分子・低分子タイプの熱可逆記録材料からなるリライタブル記録層の上層に、部分的に、ロイコ染料タイプの熱可逆記録材料からなるリライタブル記録層を有することを特徴とするリライトカード。

**【発明の詳細な説明】****【0001】**

**【発明の属する技術分野】** 本発明は、表示文字や図形等からなる情報の書き換えが可能なリライトカードに関するものである。

**【0002】**

**【従来の技術】** 従来より、この種のリライトカードとしては、例えばキャッシュカード、クレジットカード、ポイントカード等があり、これらは、カード表面の熱可逆性記録フィルムの特性を利用して所望の情報をカード表面に表示したり、表示した情報を消去することができ、また、カード裏面の磁気記録層に情報を記録したり、記録した情報の再生を可能とするものとして広く知られている。

**【0003】** ところで、この種のリライトカードには、図5に示すような貼り合わせタイプや、図6に示すようなアルミ蒸着タイプのものがある。

**【0004】** 図5に示した貼り合わせタイプのリライトカード1は、所定の温度で透明と白濁の可逆的な色相変化が生じる透明・白濁型の熱可逆性記録フィルム3と磁気PET17とを接着剤18で貼り合わせた構造であって、印字領域には接着剤を塗布せずに空気層を形成させ、熱可逆性記録フィルム3の白濁により形成される白濁色の文字などをより一層鮮明に表示する。

**【0005】** なお、熱可逆性透明フィルム3は、高分子・低分子タイプの熱可逆記録材料等からなる透明・白濁型リライタブル記録層9の表面を、保護層9で被覆し保護するとともに、当該透明・白濁型リライタブル記録層9の裏面に、磁気PET17との間で空気層を形成するシート状の透明PET8を設けた物である。一方、磁気PET17は、カード基材として機能するシート状の白色PET4の表面に、黒1色または、赤、青、緑などの有彩色1色やフルカラー印刷を施したバック印刷層7

(熱可逆性記録フィルム3の可逆変化により、形成される白濁色の文字等の背景となる層)を設けるとともに、当該白色PET4の裏面には磁気層16が設けられ、この磁気層16は保護層6で被覆保護されている。なお、カード表裏面の保護層6、6には文字や図形等の情報が

印刷され印刷層12を形成している。

**【0006】** 図6に示したアルミ蒸着タイプのリライトカード1は、シート状PET等をカード基材19とし、カード基材19の表面側に、アルミニウム蒸着法などにより形成される光反射層15と、透明・白濁型リライタブル記録層9と、保護層6とを順に積層形成するとともに、カード基材19の裏面側に、磁気層16と保護層6を順に積層形成したものであり、カード表裏面の保護層6、6の上には所定の情報が印刷され印刷層12を形成している。

**【0007】**

**【発明が解決しようとする課題】** しかしながら、図5及び図6に示した従来のリライトカード1にあっては、いずれも、カードの同一面上で発色・消色が可能な色相

(色あい)は一色、すなわち透明・白濁型リライタブル記録層9の可逆変化による白濁色しかなく、この一色で文字や絵柄などの情報を必要に応じて書き換え可能に表示するだけのものであるため、例えばカードの同一面上に表示した情報のうち、特に強調したいメッセージ等を他の情報部分とは別の異なる色で書き換えることができない。

**【0008】** 本発明は上述の事情に鑑みてなされたもので、その目的とするところは、カードの同一面上において、強調メッセージ等のように差別化したい情報を、他の情報部分とは異なる色で書き換え可能に表示できるリライトカードを提供することにある。

**【0009】**

**【課題を解決するための手段】** 上記目的を達成するために、請求項1記載の発明は、基材の同一面上に発色時の色彩が異なる複数のリライタブル記録層を備えてなることを特徴とするものである。

**【0010】** 請求項2記載の発明は、ロイコ染料タイプの熱可逆記録材料からなるリライタブル記録層の上層に、部分的に、高分子・低分子タイプの熱可逆記録材料からなるリライタブル記録層を有することを特徴とするものである。

**【0011】** 請求項3記載の発明は、高分子・低分子タイプの熱可逆記録材料からなるリライタブル記録層の上層に、部分的に、ロイコ染料タイプの熱可逆記録材料からなるリライタブル記録層を有することを特徴とするものである。

**【0012】** 請求項1記載の発明では、カードの同一面上において、複色の発色が可能となり、また、請求項2および請求項3記載の発明では、カードの同一面上において、ロイコ染料タイプである発色・消色型リライタブル記録層に基づく黒色または赤色等の有彩色と、高分子・低分子タイプである透明・白濁型リライタブル記録層に基づく白濁色との、少なくとも2色の発色が可能となり、いずれも、文字や図形などの情報を複色で書き換え可能に表示することができる。

## 【0013】

【発明の実施の形態】以下、本発明に係るリライトカードの実施形態について図1乃至図4を基に詳細に説明する。

【0014】図1は本発明のリライトカードを名刺カードに適用した実施形態を示したものである。同図に示す名刺カードとしてのリライトカード1は、ロイコ染料型の熱可逆性記録フィルム2の表面上に、部分的に、高分子・低分子型の熱可逆性記録フィルム3を貼り付けた構造である。

【0015】ロイコ染料型の熱可逆性記録フィルム2は、カード基材として機能するシート状の白色PET4上に、ロイコ染料タイプの熱可逆記録材料からなる発色・消色型リライタブル記録層5を積層形成するとともに、発色・消色型リライタブル記録層5の表面を保護層6により被覆し保護する構成を採用している。

【0016】発色・消色型リライタブル記録層5は、ロイコ染料を主成分とするもので、加熱後に急冷を行うと、消色状態（透明）から発色して黒色又は赤色又は青色等の発色状態が固定され、一方、徐冷を行うと、発色状態から消色状態に可逆的に変化し、その2形態の変化が常温でも維持される。

【0017】上記保護層6の表面の一部には、黒一色または赤、青、緑等の有彩色一色又はフルカラーの印刷を施したバック印刷層7が設けられており、このバック印刷層7は、高分子・低分子型の熱可逆性記録フィルム3中に、その熱可逆変化による白濁色の文字や図形等が形成表示されたとき、当該白濁色の文字や図形等の背景となる。

【0018】高分子・低分子型の熱可逆性記録フィルム3は、シート状の透明PET8上に、高分子・低分子タイプの熱可逆記録材料からなる透明・白濁型リライタブル記録層9を積層形成するとともに、透明・白濁型リライタブル記録層9の表面を保護層6により被覆し保護する構成を採用している。

【0019】透明・白濁型リライタブル記録層9は、所定の温度により透明状態から白濁状態へと可逆的に変化し、その2形態の変化が常温でも維持される。

【0020】上述の通り、ロイコ染料型の熱可逆性記録フィルム2のバック印刷層7は、高分子・低分子型の熱可逆性記録フィルム3中に形成表示される白濁色の文字や図形の背景となるものである。したがって、高分子・低分子型の熱可逆性記録フィルム3は、ロイコ染料型の熱可逆性記録フィルム2の表面上で、かつバック印刷層7を設けた部分に貼着される。このように貼着すると、発色・消色型リライタブル記録層5の上層部に、部分的に、バック印刷層7とその上に配置される透明・白濁型リライタブル記録層9とを有することになる。

【0021】ところで、ロイコ染料型の熱可逆性記録フィルム2と、高分子・低分子型の熱可逆性記録フィルム

3との貼着は、ロイコ染料型の熱可逆性記録フィルム2のバック印刷層7を形成した側と、高分子・低分子型の熱可逆性記録フィルム3の透明PET8側とを接着剤

（接着剤層10）で接着固定することにより行われる。

また、このように接着固定した状態のとき、ロイコ染料型の熱可逆性記録フィルム2のバック印刷層7と、高分子・低分子型の熱可逆性記録フィルム3の透明PET8との間には一定容量の空気層11が形成される。空気層11は従来技術でも述べた通り、高分子・低分子型の熱可逆性記録フィルム3中に形成表示される白濁色の文字などを、より一層鮮明な表示とするために設けられる。

【0022】なお、ロイコ染料型の熱可逆性記録フィルム2の表面上で、かつ高分子・低分子型の熱可逆性記録フィルム3を貼着していない部分には白黒やカラー印刷等による印刷層12が、また、ロイコ染料型の熱可逆性記録フィルム2の裏面にもカラー印刷等による印刷層12が設けられている。

【0023】次に、上記の如く構成されたリライタブルカード1の使用例とその作用効果について図1を用いて説明する。

【0024】一般に、名刺においては氏名、住所等の他、自己PR用の強調メッセージ（例えば「私はリライトカードの開発業務を担当しています。」）等のタイムリーな情報を書き換え可能に表示したい場合も生じる。この種の強調メッセージは、カードの同一面上に表示されている他の一般的な情報とは異なる色彩で差別化し、看者の視覚に訴えるものであることが重要である。

【0025】本実施形態のリライタブルカード1は上記要求に答えることができる。すなわち、本実施形態のリライタブルカード1は、ロイコ染料型の熱可逆性記録フィルム2の上層部に、部分的に、高分子・低分子型の熱可逆性記録フィルム3を積層した構造であるため、カードの同一面上で、発色・消色型リライタブル記録層5に基づく黒色または赤色等の有彩色と、透明・白濁型リライタブル記録層9に基づく白濁色との2色の発色が可能である。従って、一般的な情報13は高分子・低分子型の熱可逆性記録フィルム3中に白濁の文字や図形などで表示し、これとは別に特殊な情報14として、自己PR等のタイムリーな強調メッセージ等については、ロイコ染料型の熱可逆性記録フィルム2中に黒色または赤色等の有彩色で書き換え可能に表示することができる。

【0026】なお、図1に示した実施形態は、発色・消色型リライタブル記録層5の上層に、部分的に、透明・白濁型リライタブル記録層9を設けたものであるが、図2に示すように、透明・白濁型リライタブル記録層9の上層に、部分的に、発色・消色型リライタブル記録層5を設けてもよく、このような積層構造の場合にも上記と同様な効果が得られる。この図2に示す実施形態では、透明・白濁型リライタブル記録層9の表面を保護層9で被覆保護し、その保護層9の上に発色・消色型リライタ

ブル記録層5を積層している。また、透明・白濁型リライタブル記録層9の下層には光反射層15としてアルミ蒸着層が設けられており、アルミ蒸着層からなる光反射層15は、発色・消色型リライタブル記録層5によって形成される黒色または赤色等の有彩色からなる文字や図形、並びに透明・白濁型リライタブル記録層9によって形成される白濁色の文字や図形等の背景を構成する。

【0027】図1および図2に示した実施形態は、発色・消色型リライタブル記録層5と透明・白濁型リライタブル記録層9との間に、保護層6等を介挿した積層構造であるが、例えば、図3に示す如く、発色・消色型リライタブル記録層5の直下に透明・白濁型リライタブル記録層9が位置する積層構造、あるいは図示は省略するが、透明・白濁型リライタブル記録層の直下に発色・消色型リライタブル記録層が位置する積層構造を採用し、図1に示すような保護層6、バック印刷層7、透明PET8または図2に示すような保護層6を省略することもできる。この図3に示す実施形態では、図2に示す実施形態と同じく、背景となる光反射層15（アルミ蒸着層）を透明・白濁型リライタブル記録層9の下層に設けている。

【0028】ところで、図1乃至図3に示した実施形態は、いずれもカードの同一面上に文字や図形等を2色またはそれ以上の色で書き換え可能に表示するための構成であるが、このような目的を達成するための構成としては、例えば図4に示すような構造を採用することもできる。すなわち、図1乃至図3に示したロイコ染料タイプの熱可逆記録材料からなる発色・消色型リライタブル記録層5は、加熱と冷却の条件により、消色状態から発色状態へと可逆的に変化できるものであり、その発色の色彩は、使用するロイコ染料の種類によって、黒色または赤色、青色等を適宜選択できる。従って、図4に示す如く、シート状の白色PET4等からなるカード基材の同一面上に、例えば赤色と黒色のよう、発色時の色彩が異なる2種の発色・消色型リライタブル記録層5、5を並設した場合には、右と左では発色時の色彩が異なるので、カードの同一面上に、文字や図形等の情報を2色で書き換え可能に表示することが可能となる。さらに、カード基材（白色PET4）の同一面上には、発色時の色彩が異なる発色・消色型リライタブル記録層を2種以上設けることもでき、この場合には2色以上で文字や図形等の情報を書き換え可能に表示することが可能となる。また、発色の色彩の組み合わせは、赤色と黒色に限定されることはなく、赤色と青色、あるいは青色と黒色のよう、各種の組み合わせを採用することができる。

【0029】上記実施形態は、本発明を名刺カードに適用した例であるが、本発明は名刺カードに限られず、各種のカード、例えばキャッシュカード、クレジットカード、ポイントカード等に適用することができる。なお、図2乃至図4に示した実施形態は、いずれもカード裏面

に磁気層16を有する磁気カードとして構成したものである。

【0030】上記実施形態では、発色・消色型リライタブル記録層5をロイコ染料タイプの熱可逆記録材料から構成したが、これに相当するその他の材料で発色・消色型リライタブル記録層5を形成することも可能である。また、同図に示した実施形態では、透明・白濁型リライタブル記録層9を高分子・低分子タイプの熱可逆記録材料から構成したが、これに相当するその他の材料で透明・白濁型リライタブル記録層9を形成することも可能である。

#### 【0031】

【発明の効果】請求項1に記載の発明は、基材の同一面上に、発色時の色彩が異なる複数のリライタブル記録層を備えてなる構造を採用したものである。このため、カードの同一面上において、複色の発色が可能となり、文字や図形などの情報を複色で書き換え可能に表示することができる。したがって、特に、強調メッセージ等のように差別化したい情報を、他の情報部分とは異なる色で書き換え、タイムリーな自己PRなどを効果的に行う場合に好適である等の効果を有する。

【0032】請求項2および請求項3に記載の発明は、①発色・消色型リライタブル記録層の上層部に、部分的に、透明・白濁型リライタブル記録層を積層した構造、若しくは②透明・白濁型リライタブル記録層の上層部に、部分的に、発色・消色型リライタブル記録層を積層した構造を採用したものである。これらもまた、カードの同一面上において、発色・消色型リライタブル記録層に基づく黒色又は赤色又は青色等の有彩色と、透明・白濁型リライタブル記録層に基づく白濁色との、少なくとも2色の発色が可能となり、文字や図形などの情報を複色で書き換え可能に表示することができ、上記と同様な効果が得られる。

#### 【図面の簡単な説明】

【図1】（a）は本発明に係るリライタブルカードの一実施形態を示す断面図、（b）は同リライタブルカードの平面図である。

【図2】本発明の他の実施形態を示す断面図。

【図3】本発明の他の実施形態を示す断面図。

【図4】本発明の他の実施形態を示す断面図。

【図5】従来のリライタブルカード（貼り合わせタイプ）の断面図。

【図6】従来のリライタブルカード（アルミ蒸着タイプ）の断面図。

#### 【符号の説明】

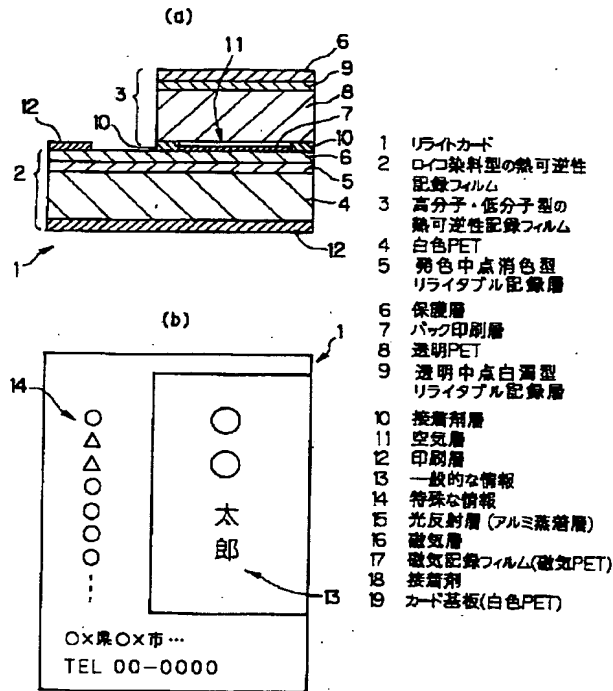
- 1 リライタブルカード
- 2 ロイコ染料型の熱可逆性記録フィルム
- 3 高分子・低分子型の熱可逆性記録フィルム
- 4 白色PET
- 5 発色・消色型リライタブル記録層



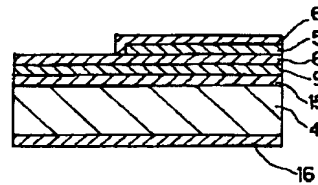
- 6 保護層
- 7 バック印刷層
- 8 透明PET
- 9 透明・白濁型リライタブル記録層
- 10 接着剤層
- 11 空気層
- 12 印刷層

- 13 一般的な情報
- 14 特殊な情報
- 15 光反射層(アルミ蒸着層)
- 16 磁気層
- 17 磁気記録フィルム(磁気PET)
- 18 接着剤
- 19 カード基材(白色PET)

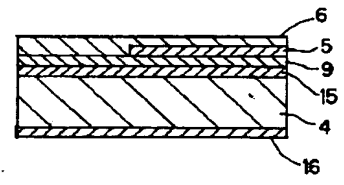
【図1】



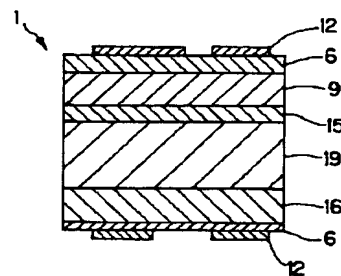
【図2】



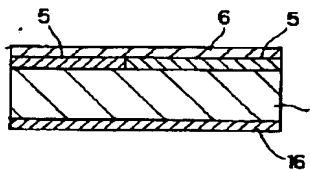
【図3】



【図6】



【図4】



【図5】

